

Inspiration and expiration

GARRY Hey, Alfred. How do I smell?

ALFRED Well Larry, smelling involves the respiratory system.

GARRY It's 'Garry'.

ALFRED The respiratory system is used to breathe.

It is composed of the nasal cavity, the trachea, bronchi, bronchioles, diaphragm, ribs, intercostal muscles and alveoli.

The respiratory system has two phases. Inspiration, that's breathing in. And expiration, breathing out. When breathing in, the diaphragm and the intercostal muscles which are between the ribs contract meaning the ribs move up and out and the diaphragm moves down.

GARRY Great but smell me already! I'm feeling under pressure here.

ALFRED Excellent point, Larry. Pressure is important. The intercostal muscles and diaphragm contracting raises the volume and therefore lowers the pressure in the thoracic cavity and lungs. The air rushes into the lungs and fills them.

The air flows through the trachea, through the bronchi, the bronchioles and finally into air sacs called 'alveoli'. The oxygen leaves the alveoli into blood vessels, transferring the oxygen into the blood.

The next stage is expiration. When you breathe out the diaphragm and intercostal muscles relax. Pushing air filled with Carbon Dioxide out of the lungs, through the trachea and out of the mouth or nose. Do it with me, in and out. In and out.

Bitesize

GARRY Great. Now I know how to breathe and smell!

ALFRED Indeed. Shower recommended.